

BELANGRIJK:
hou deze schema's bij het orgel!!

IMPORTANT:
keep the schematic diagrams with the organ!!

WICHTIG:
Schaltpläne bei Orgel aufbewahren!!

SERVICE INFORMATION

0275

solina

STRING – ENSEMBLE

INHOUD – CONTENTS – INHALT

	Part No.*	Sheet No.
Gate circuit	021.0001	
Bass circuit	003.3015	
Divider circuit A	005.0077	
Divider circuit B	005.0078	
Register circuit	003.3016	
Master oscillator circuit	005.0071	
Schematic diagram	015.0212	
Wiring diagram	015.0213	
Signal flow diagram	015.0214	
Control circuit	012.0025	
Modulator circuit B	012.0022	
Divider circuit C	005.0082	
Power supply	008.0066	

*Printed circuit
Part number!

TECHNISCHE GEGEVENS

Netfrequentie
Netspanning*

Ingang (input):
Expressionpedal

Output:

Low output I
High output II

Zekeringen:

net: 220 V*
18,5 V 2x
traag

TECHNICAL DATA

Mains frequency
Mains voltage*

Input connection:
Expressionpedal

Output:

Low output I
High output II

Fuses:

mains: 220 V*
18,5 V 2x
slow action

TECHNISCHE DATEN

Netzfrequenz
Netzspannung*

Eingang (input):
Schwellpedal

Ausgangsabnahme:

Low output I
High output II

Sicherungen:

Netz: 220 V*
18,5 V 2x
träge

50/60 Hz
220 V (115-240-250*)

{ thermal release in primary
winding (micro STB 4239
disconnect temp. 115 °C)
3,15 Amp.

* 115 - 240 - 250 V.

*Voor 115, 240 en 250 Volt netspanning; als volgt te werk gaan:

—verwijder kap van de transformator

—de draad op de 220 V aansluiting omzetten naar de gewenste netspanning

*For 115, 240 and 250 Volt operation:

—remove cover of transformer

—relocate mains voltage to appropriate voltage.

*Für 115, 240 und 250 V Netzspannung wie folgt handeln:

—Die Kappe des Transformators entfernen

—Den Draht des 220 V Anschlusses in die gewünschte Netzspannung umsetzen.

Service dokumentatie:

Service information:

Kundendienst dokumentation:

(aanvragen bij servicedienst te Bodegraven)

(inquire by your importer or MCH Holland)

(fragen Sie bei Ihrem Importeur oder MCH)

Service onderdelenlijst zie:

Service parts list see:

Service-Erzatzteilenliste siehe:



Schema beschrijvingen zie:

For theory of Operation see:

Schaltplanbeschreibungen siehe:



Storings- en lokalisatielijst zie:

Trouble shooting guide see:

Fehlersucheliste siehe:



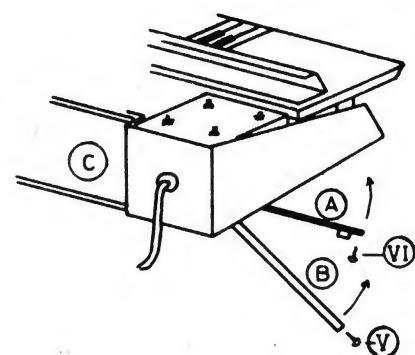
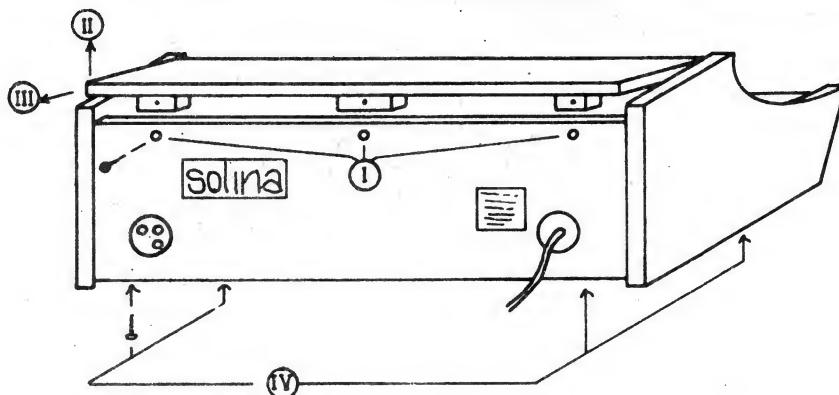
ATTENTIE:

ATTENTION:

ACHTUNG:

THEORY OF OPERATION: Divider circuit * 2 *

Divider circuit should be *2* instead of *1*



DEMONTAGE STRING-ENSEMBLE

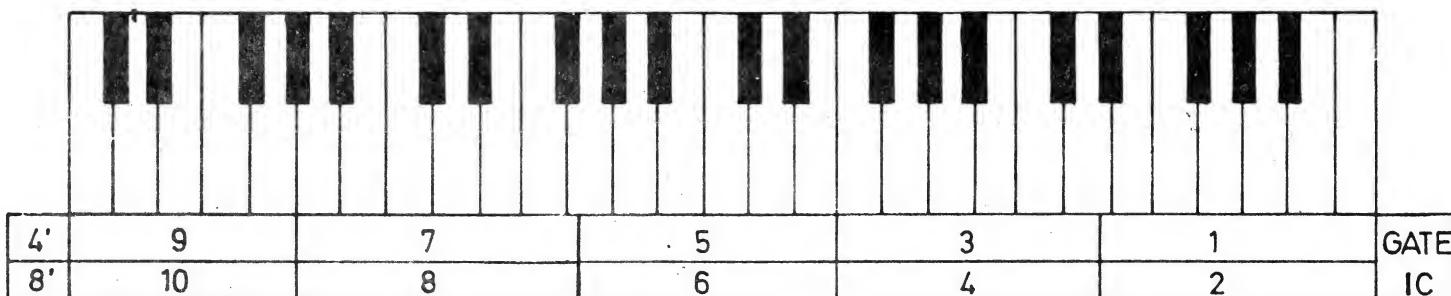
1. Verwijder schroeven **I**
2. Til bovenblad op, zie **II**
3. Schuif bovenblad weg, zie **III**
4. Verwijder schroeven **IV**
5. De konstruktie kan nu uit de kast worden getild.
6. De panelen A en B zijn klapbaar na verwijdering van schroeven **V** en **VI**

DISASSEMBLY OF STRING-ENSEMBLE

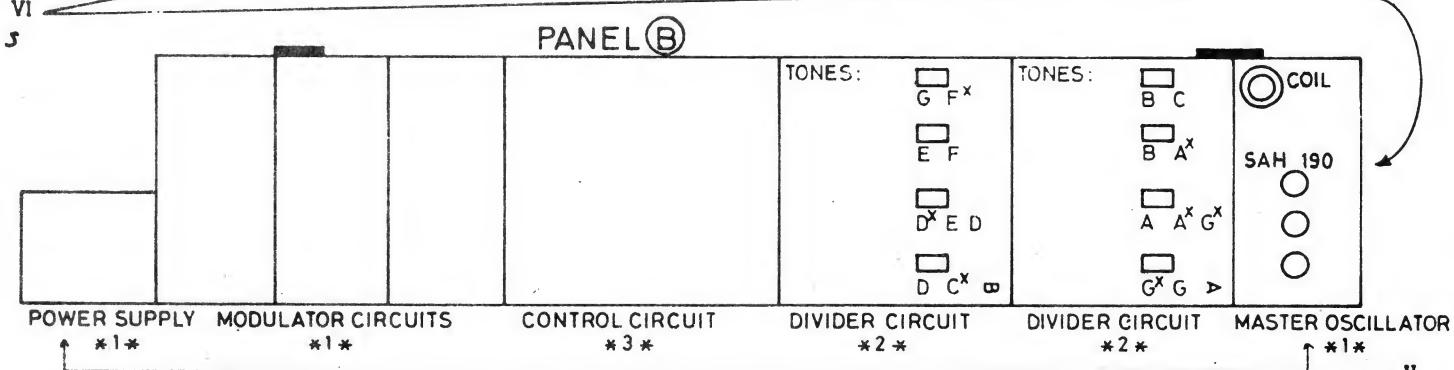
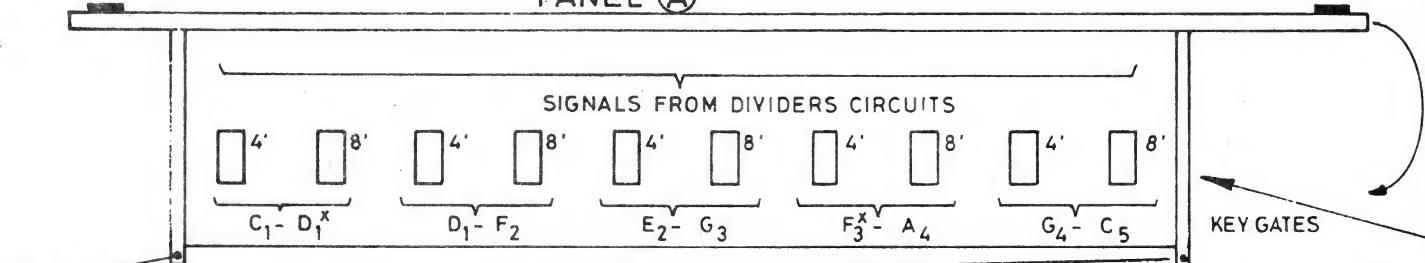
1. Remove (3) screws **I**
2. Raise cover, see **II**
3. Push cover out of the way, see **III**
4. Remove (4) screws **IV**
5. Lift out unit from cabinet
6. Panels A and B will fold out of way after removing screws **V** and **VI**.

DEMONTAGE STRING-ENSEMBLE

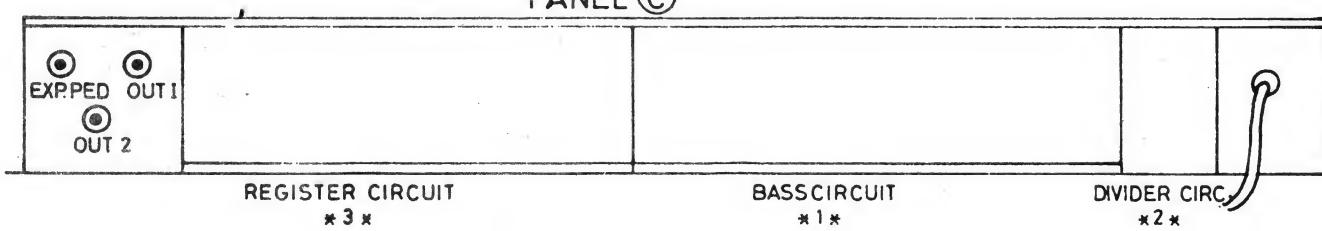
1. Schrauben rausdrehen (siehe I)
2. Oberbrett anheben (siehe II)
3. Oberbrett wegschieben (siehe III)
4. Schrauben rausdrehen (siehe IV)
5. Die Konstruktion kann jetzt aus der Kiste gehoben werden.
6. Die Paneelen a und b sind klappbar, nachdem die Schrauben rausgedreht sind. (siehe V und VI).



PANEL **A**



PANEL **C**

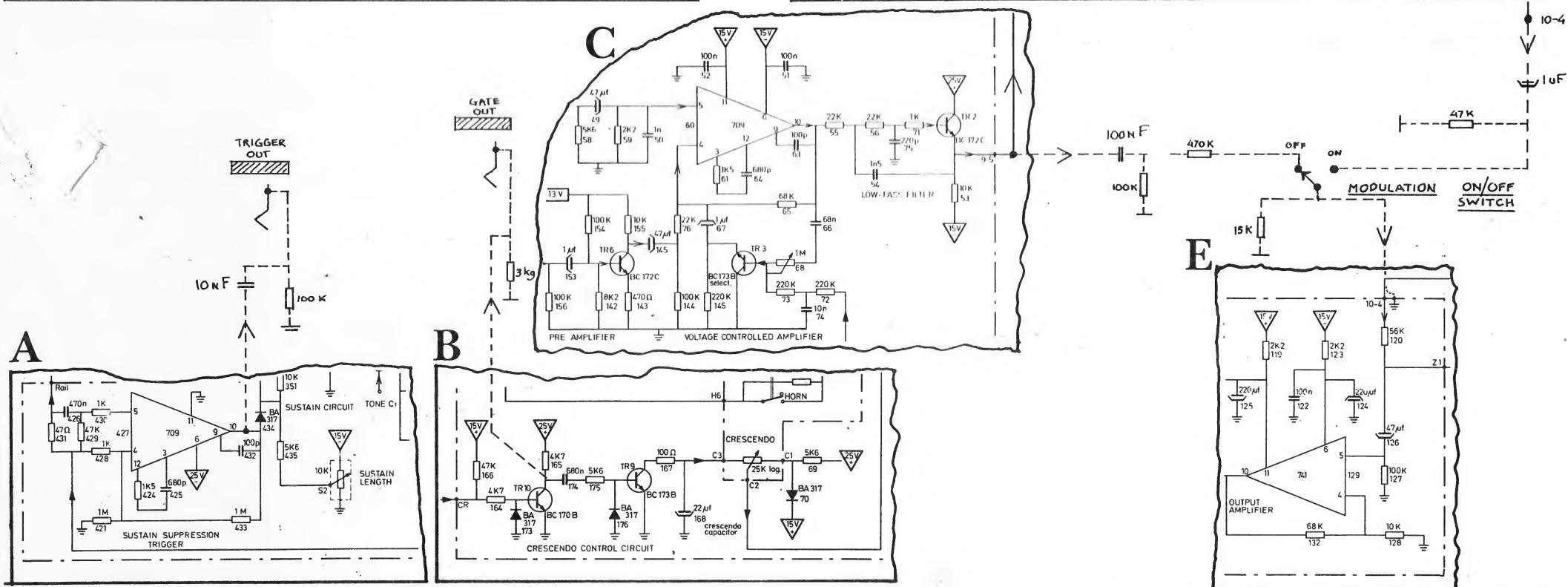
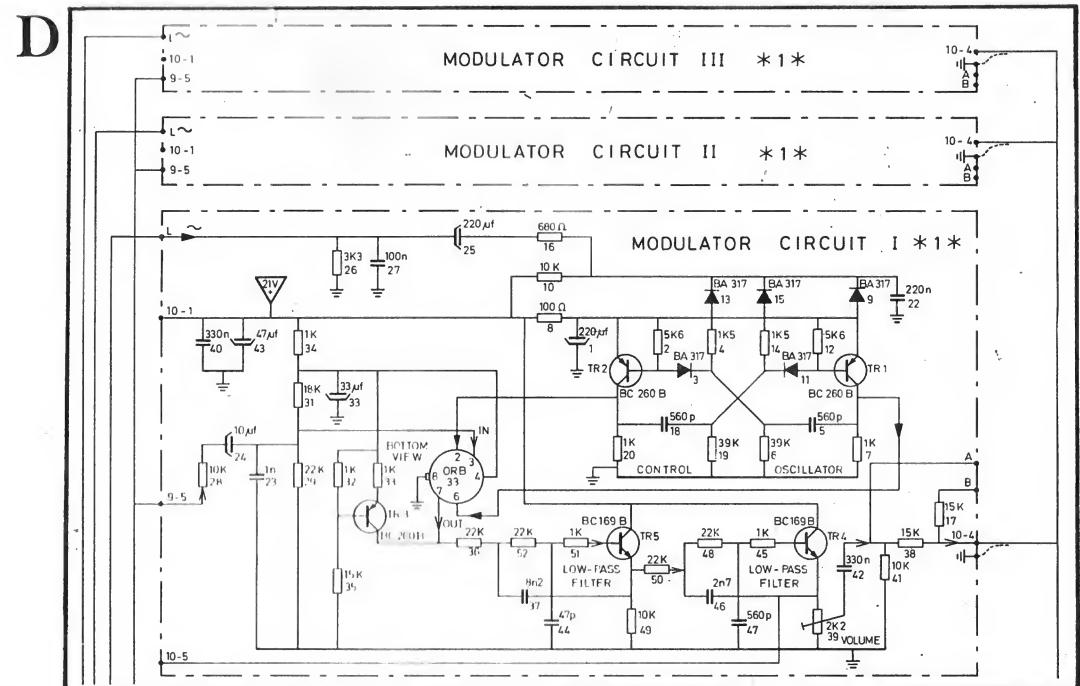
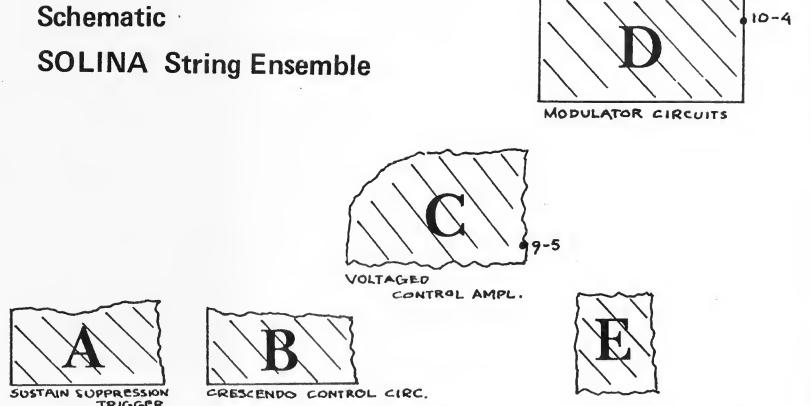


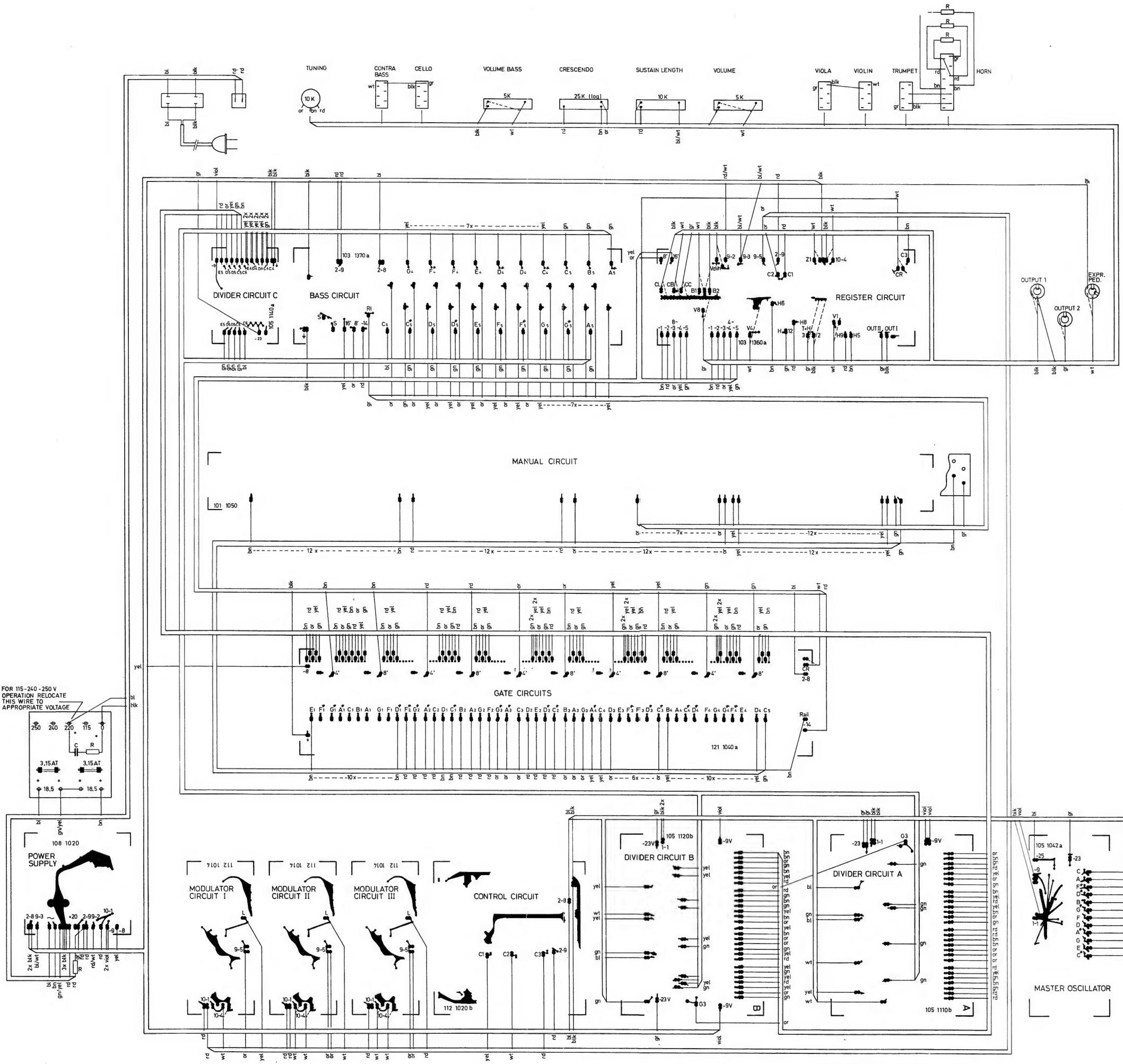
MODIFICATION STRING ENSEMBLE (schematic 015-0212)

From serie 31.

Schematic

SOLINA String Ensemble

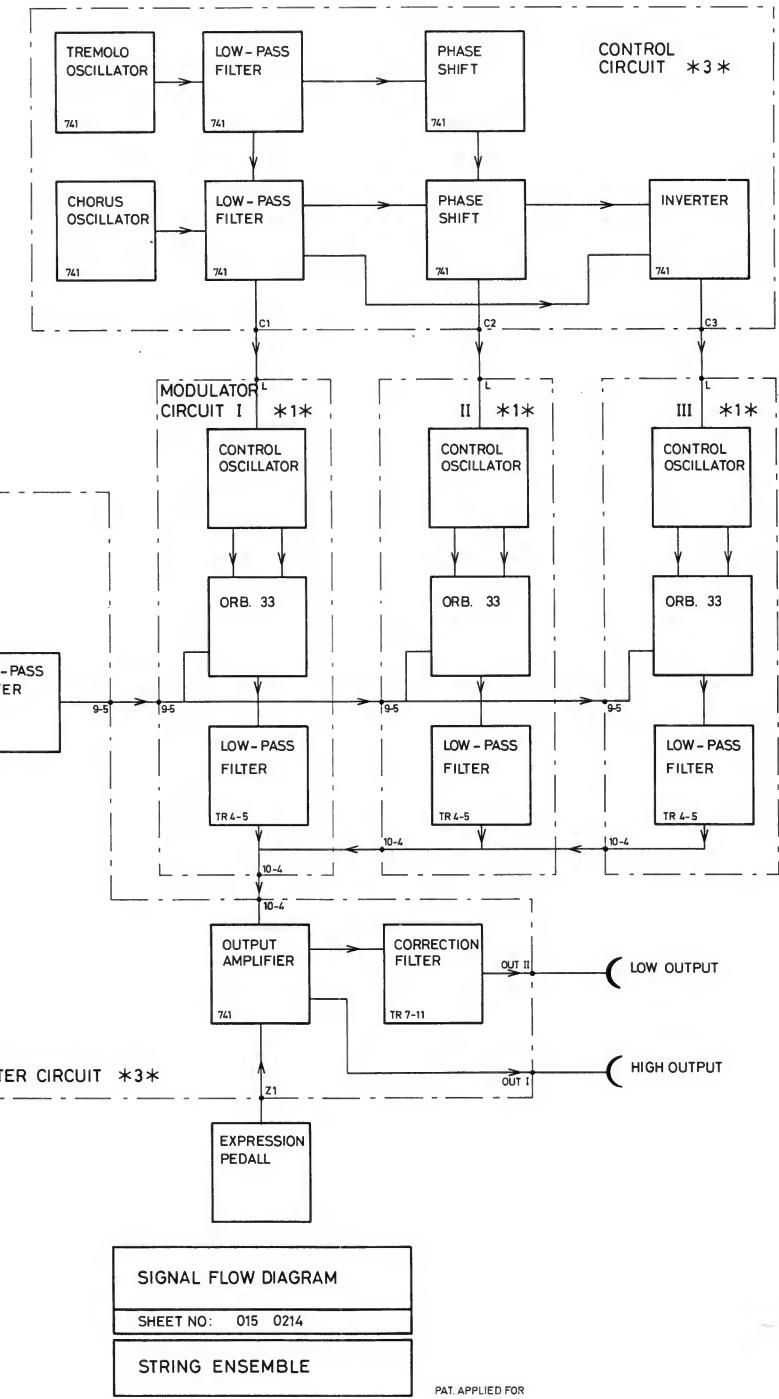
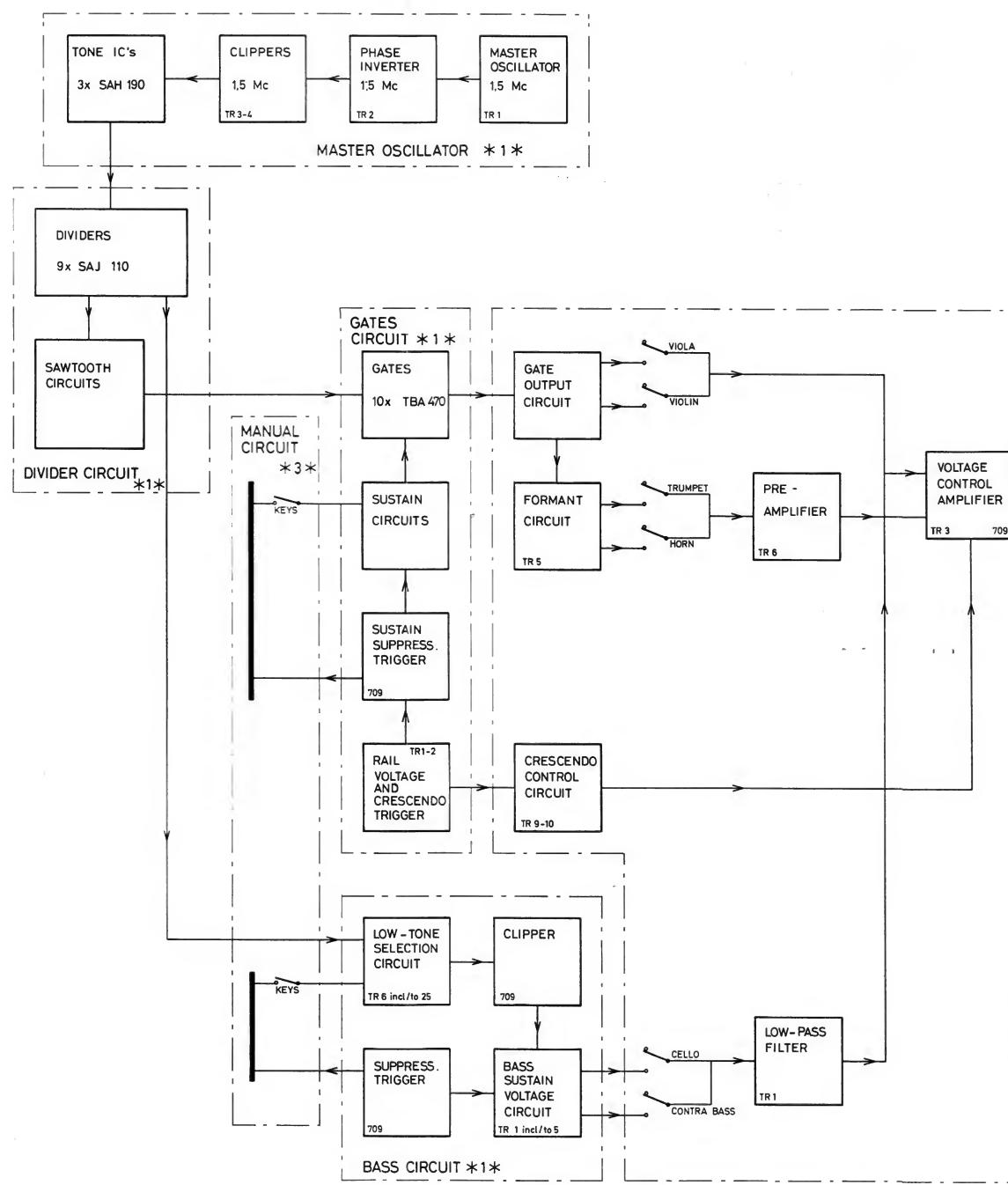


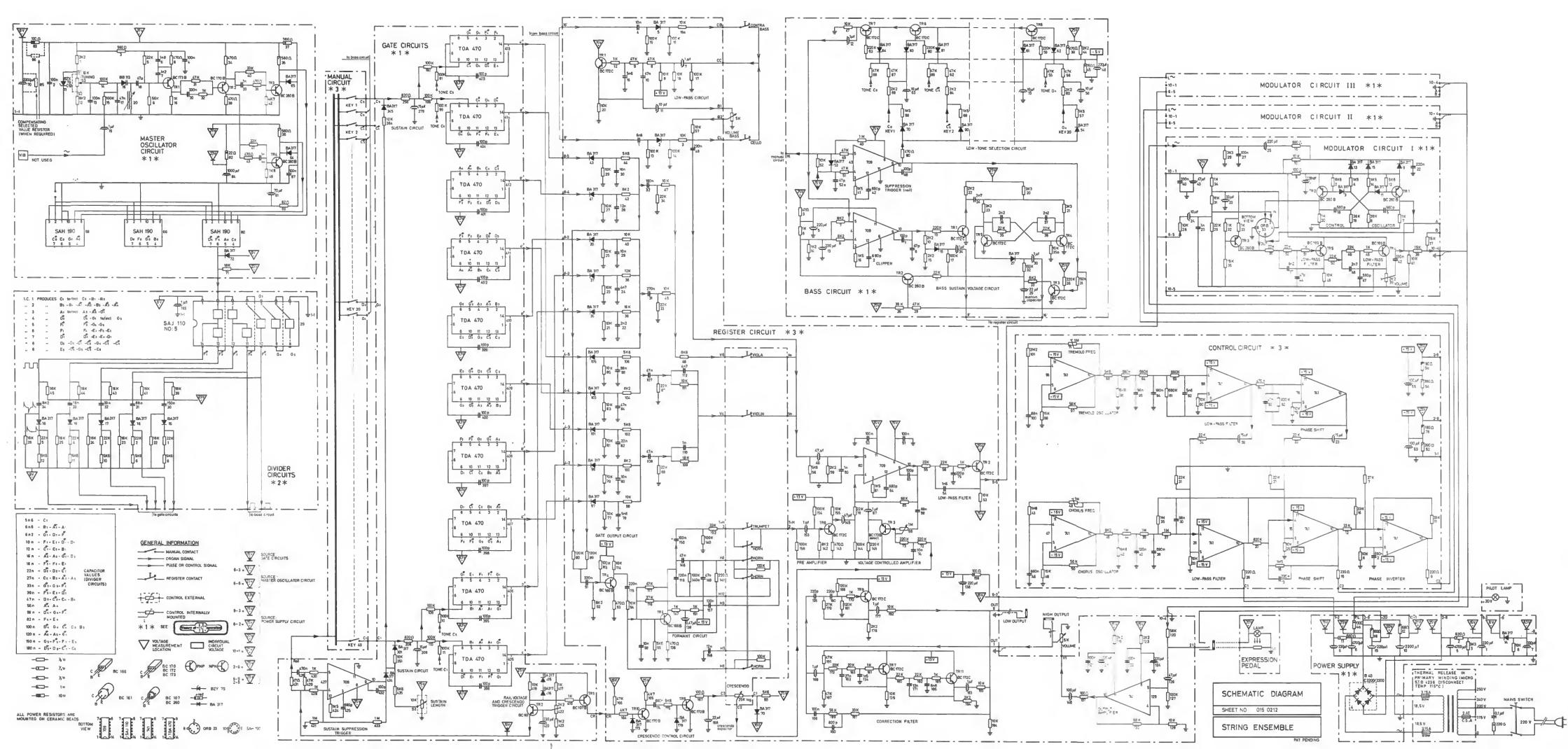


WIRING DIAGRAM

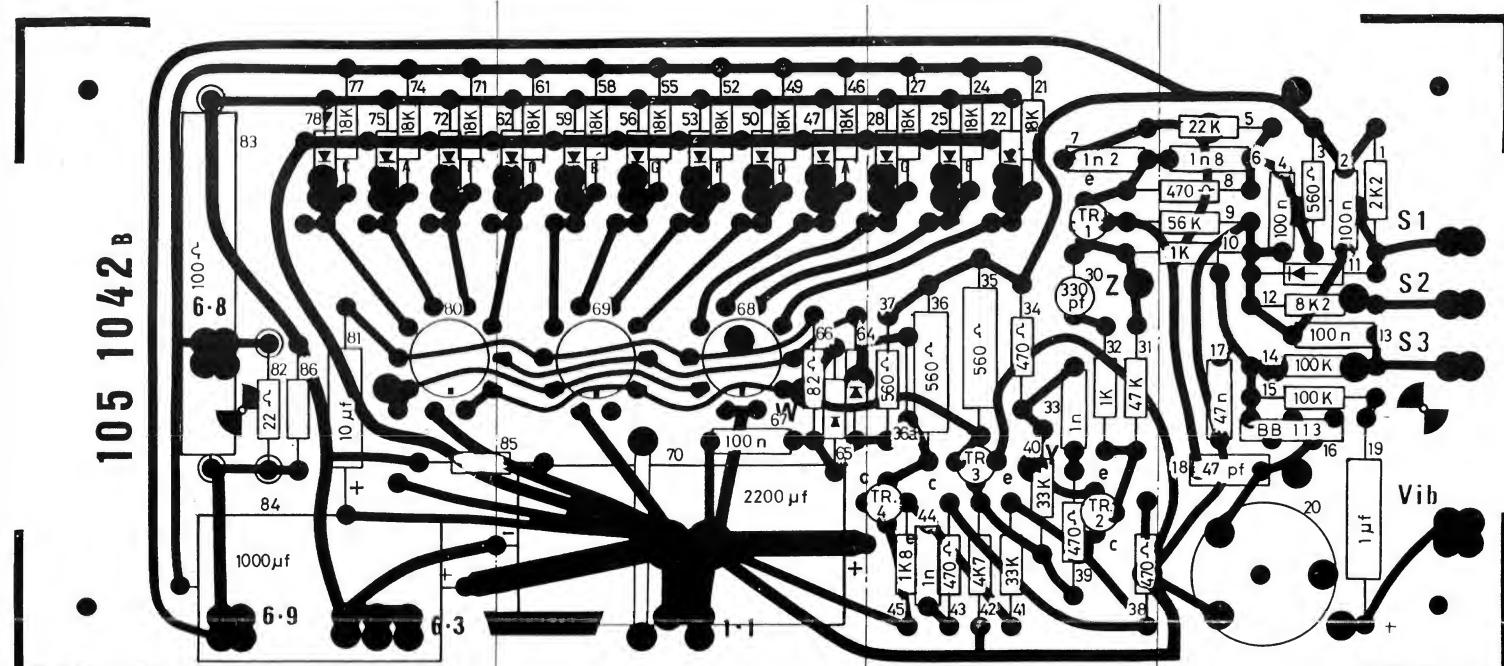
SHEET NO : 015 0213

STRING ENSEMBLE





210 - 3182	RESISTOR	45
210 - 3829	"	66
210 - 3471	"	8,34,38,39,43
210 - 3561	"	3
210 - 3102	"	10,32
210 - 3222	"	1
210 - 3472	"	42
210 - 3822	"	12
210 - 3183	"	21,24,27,46,49,52,55,58,61,71,74,77
210 - 3223	"	5
210 - 3333	"	40,41
210 - 3473	"	31
210 - 3563	"	9
210 - 3104	"	14,15
211 - 3229	"	82
211 - 3561	"	37
211 - *	"	85,86
212 - 3561	"	35,36
216 - 3101	"	83
310 - 2122	CAPACITOR	7
310 - 2102	"	33,34
310 - 2182	"	6
310 - 2104	"	2,4,13,67
310 - 2473	"	17
313 - 2331	"	30
313 - 5479	"	18
314 - 6222	EL CAPACITOR	70
314 - 8108	"	19
314 - 8109	"	81
314 - 6102	"	84
411 - 1702	TRANSISTOR	TR. 2
411 - 1732	"	TR. 1
411 - 2602	"	TR. 3,4
420 - 0317	DIODE	22,25,28,47,50,53,56,59,62,64,65,72,75,78
424 - 0279	"	11
430 - 0113	"	16
436 - 0190	I. C.	68,69,80
600 - 3586	COIL	20
500 - 0907	JUMPER WIRE	36a
125 - 0161	TUBE	2
775 - 0002	CABLE TIE	1
900 - 0031	BEAD	4
105 - 1042 A	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.

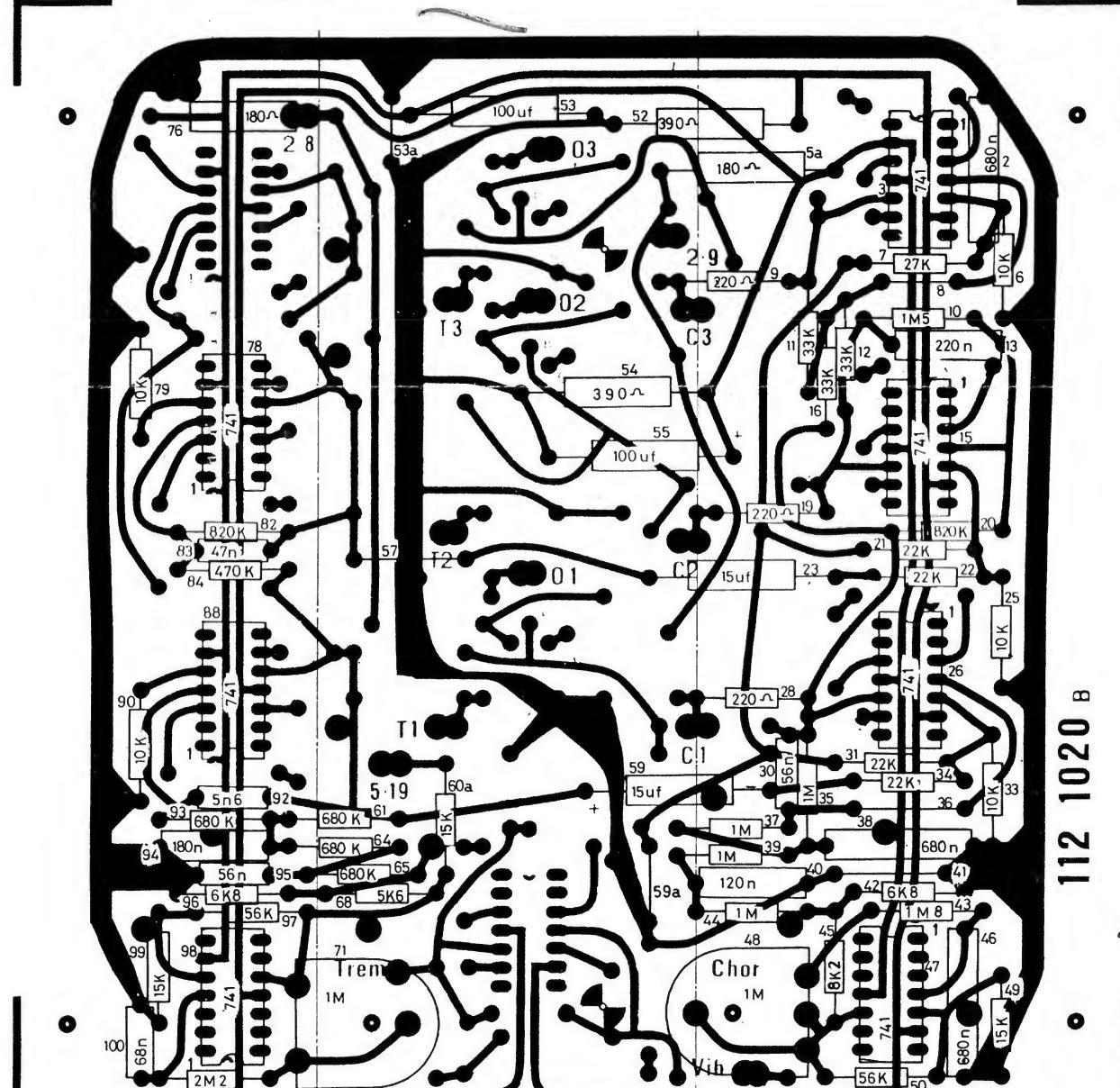


R & C	71 - 86	46 - 70	21 - 45	1 - 20
TRANSISTOR			TR. - 1, 2, 3, 4	

MASTER OSCILLATOR

PART. NO. 005 - 0071

900	0031	BEAD	4x
210	- 3185	RESISTOR	43
210	- 3221	RESISTOR	9, 19, 28
210	- 3822	"	45
210	- 3562	"	68
210	- 3682	"	42, 96
210	- 3103	"	6, 25, 33, 79, 90
210	- 3153	"	49, 99, 60a
210	- 3223	"	21, 22, 31, 34
210	- 3273	"	7
210	- 3333	"	11, 12, 16
210	- 3563	"	50, 97
210	- 3474	"	84
210	- 3684	"	61, 64, 65, 93
210	- 3824	"	20, 82
210	- 3105	"	35, 37, 39, 44
210	- 3155	"	10
210	- 3225	"	101
212	- 3391	"	52, 54
213	- 3181	"	5a, 76
		CAPACITOR	
310	- 2562	"	92
310	- 2473	"	83
310	- 2563	"	30, 95
310	- 2683	"	100
310	- 2124	"	40
310	- 2184	"	94
310	- 2224	"	13
310	- 2684	"	2, 38, 46
314	- 8159	EL CAPACITOR	23, 59
314	- 7101	"	53, 55
230	- 0063	POT. METER	48, 71
436	- 0741	I. C.	3, 15, 26, 47, 78, 88, 98
500	- 0905	JUMPER WIRE	8, 36, 41, 57, 53a, 59a
112	- 1020 B	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.	

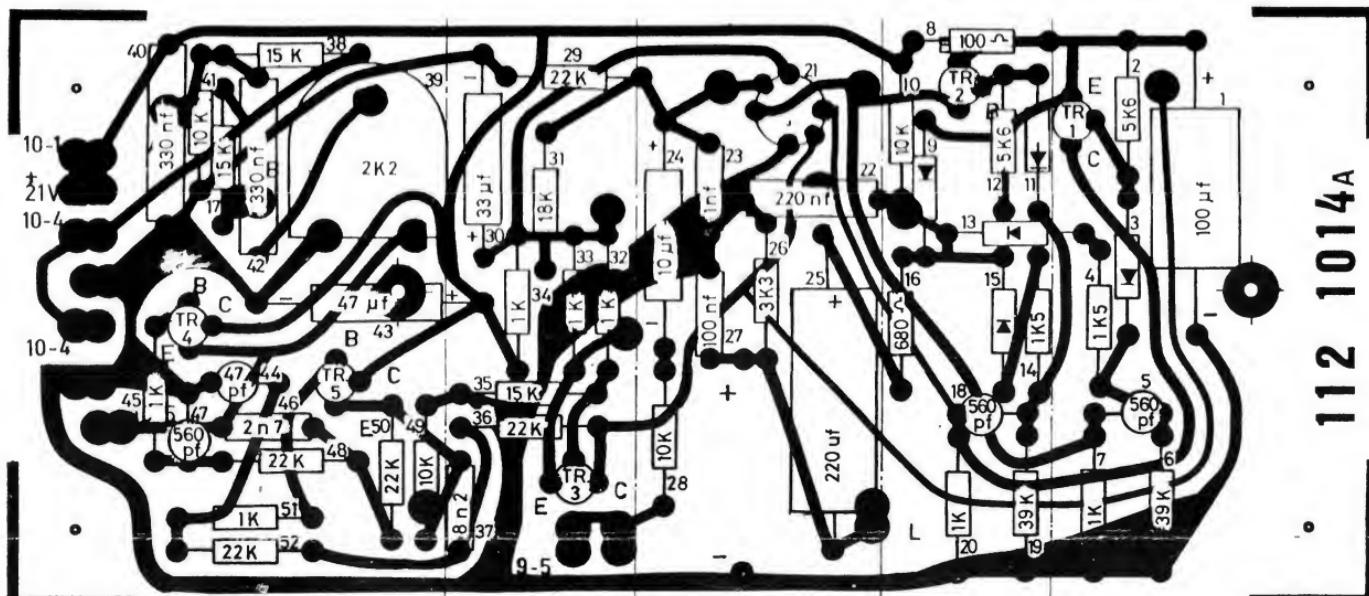


112 1020 8

CONTROL CIRCUIT

PART. NO. 012 - 0025

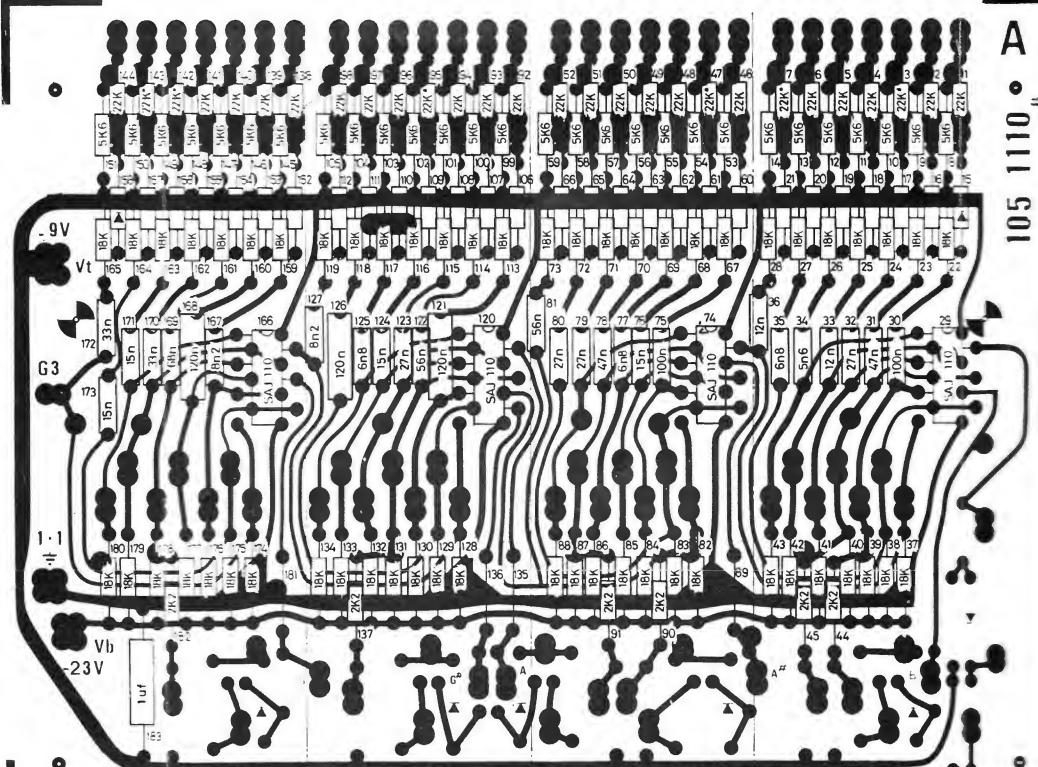
210 - 3393	RESISTOR	6,19
210 - 3223	"	29 36,48,50,52
210 - 3153	"	17, 35, 38, 31
210 - 3103	"	10, 28, 41, 49
210 - 3102	"	7, 20, 32, 33, 34, 45, 51
210 - 3562	"	2,12
210 - 3332	"	26
210 - 3681	"	16
210 - 3101	"	8
210 - 3152	"	4,14
210 - 3183	"	31
310 - 2272	CAPACITOR	46
310 - 2822	"	37
310 - 2102	"	23
310 - 2104	"	27
310 - 2224	"	22
310 - 2334	"	40,42
313 - 2479	"	44
313 - 2561	"	5,18,47
314 - 6221	EL CAPACITOR	25
314 - 7101	"	1
314 - 7479	"	43
314 - 7339	"	30
314 - 8109	"	24
411 - 1692	TRANSISTOR	TR. 4,5
411 - 2602	"	TR. 1,2,3
420 - 0317	DIODE	3,9,11,13,15
230 - 0055	POT. METER	39
436 - 0033	I. C.	21
112 - 1014 A	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.



R & C	38 - 52, 17	29 - 37	21 - 28	8 - 20	1 - 7
TRANSISTOR	TR. 4, 5	TR. 3		TR. 2	TR. 1

MODULATOR CIRCUIT B

PART. NO. 012 - 0022

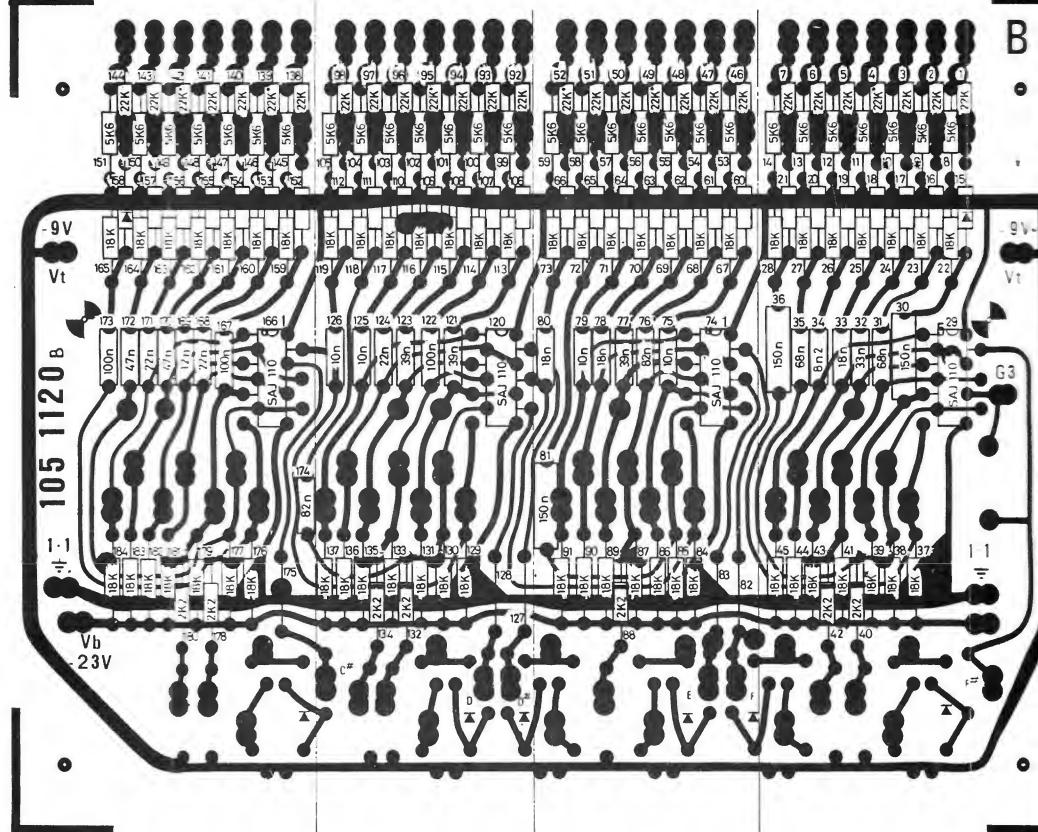


210 - 3222	RESISTOR	44, 45, 90, 91, 137, 182
210 - 3562	"	8.9, 11, 12, 13, 14, 53, 54, 55, 55, 57, 58, 59, 99, 100
210 - 3562	"	101, 102, 103, 104, 105, 145, 146, 147, 148, 149, 150, 151
210 - 3183	"	22, 23, 24, 25, 26, 27, 28, 37, 38, 39, 40, 41, 42, 43, 67
210 - 3183	"	68, 69, 70, 71, 72, 73, 82, 83, 88, 89, 90, 91, 92, 98, 113
210 - 3183	"	114, 115, 116, 117, 118, 119, 128, 129, 130, 131, 132, 133, 134
210 - 3183	"	159, 160, 161, 162, 163, 164, 165, 174, 175, 176, 177, 178
210 - 3183	"	179, 180
210 - 3223	"	1, 2, 3, 4, 5, 6, 7, 46, 47, 48, 49, 50, 51, 52, 93, 94, 95
210 - 3223	"	96, 97, 98, 138, 139, 140, 141, 142, 143, 144
310 - 2562	CAPACITOR	34
310 - 2682	"	35, 77, 125
310 - 2822	"	127, 167
310 - 2123	"	33, 36
310 - 2153	"	76, 124, 171, 173
310 - 2273	"	32, 79, 80, 123
310 - 2333	"	170, 172
310 - 2473	"	31, 78
310 - 2563	"	81, 122
310 - 2683	"	169
310 - 2104	"	30, 75
310 - 2124	"	121, 126, 168
314 - 8108	"	183
420 - 0317	DIODE	15, 16, 17, 18, 19, 20, 21, 60, 61, 62, 63, 64, 65, 66
420 - 0317	"	106, 107, 108, 109, 110, 111, 112, 151, 153, 154, 155, 156
420 - 0317	"	157, 158
436 - 0110	I. C.	29, 74, 120, 166
500 - 0905	JUMPER WIRE	89, 135, 136, 181
105 - 1110 B	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.

R & C	75 - 123	92 - 137	46 - 91	1 - 45
TRANSISTOR				

DIVIDER CIRCUIT

PART. NO. 005 - 0077



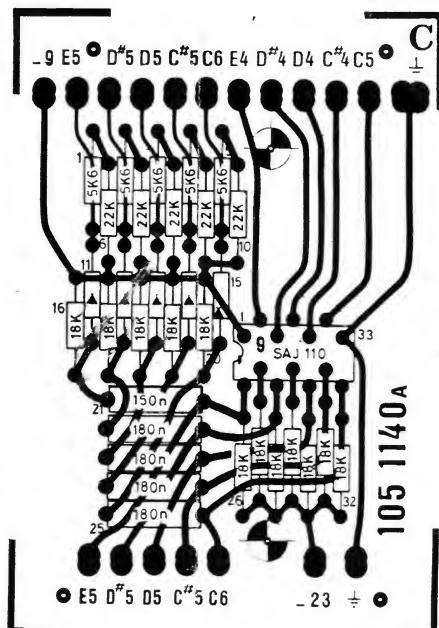
210 - 3562	RESISTOR	8,9,10,11,12,13,14,53,54,55,56,57,58,59,60,101
210 - 3562	"	102,103,104,105,145,146,147,148,149,150,151
210 - 3222	"	40,42,88,132,134,178,180
210 - 3183	"	22,23,24,25,26,27,28,37,38,39,41,43,44,45,67
210 - 3183	"	68,69,70,71,72,73,84,85,86,87,89,90,113,114
210 - 3183	"	115,116,117,118,119,129,[30,131,133,135,136,137]
210 - 3183	"	159,160,161,162,163,164,165,176,177,178,181
210 - 3183	"	182,183,184
210 - 3223	"	1,2,3,4,5,6,7,46,47,48,49,50,51,52,53,94,95
210 - 3223	"	96,97,98,138,139,140,141,142,143,144
310 - 2822	CAPACITOR	34
310 - 2103	"	75,79,125,126
310 - 2123	"	169
310 - 2183	"	33,78,80
310 - 2223	"	124,168,171
310 - 2333	"	32
310 - 2393	"	77,121,123
310 - 2473	"	170,172
310 - 2683	"	31,35
310 - 2823	"	76,174
310 - 2104	"	122,167,173
310 - 2154	"	30,36,81
420 - 0317	DIODE	15,16,7,18,19,20,21,60,61,62,63,64,65,66,106
420 - 0317	"	107,108,109,110,111,112,152,153,154,155
420 - 0317	"	156,157,158
436 - 0110	I.C.	29,74,120,166
500 - 0905	JUMPER WIRE	82,83,127,128,175
105 - 1120 B	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.

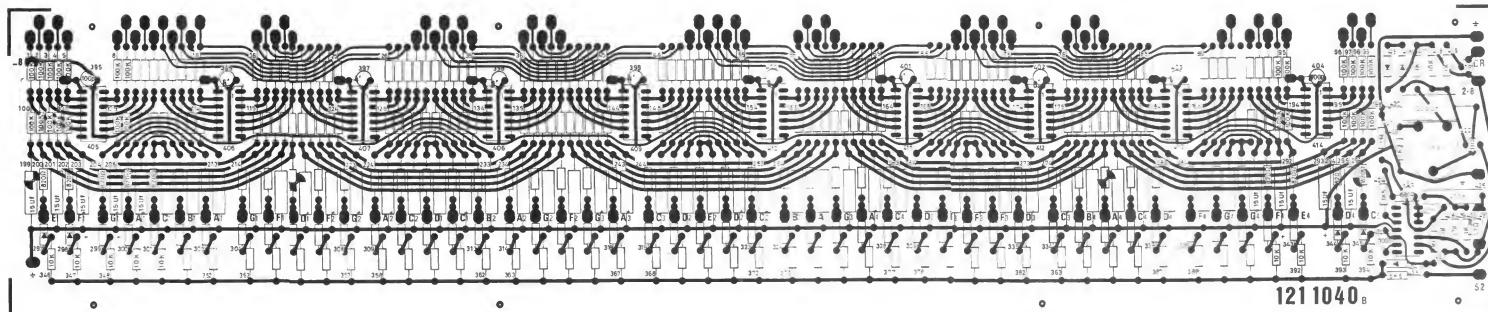
R & C	116 - 184	92 - 137	46 - 91	1 - 45
TRANSISTOR				

DIVIDER CIRCUIT B

PART. NO. 005-0078

420 0180	DIODE	11...15
210 3562	RESISTOR	1...5
210 3183	"	16...20, 26...32
210 3223	"	6...10
310 2154	CAPACITOR	21
310 2184	"	22...25
436 0110	I.C.	33
105 1140	CIRC.BOARD	
PART NO.	NAME	POSITION NO.



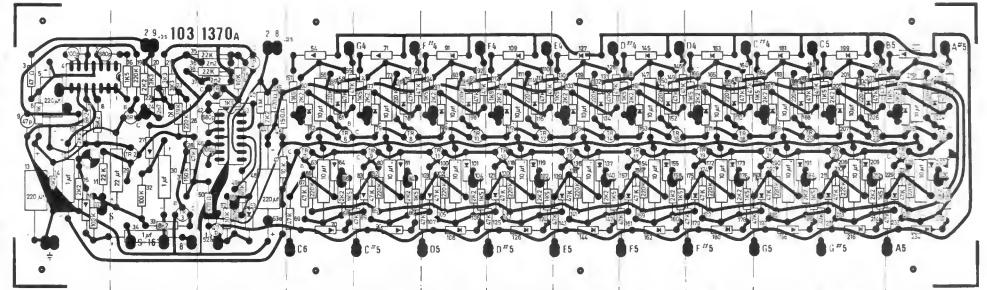


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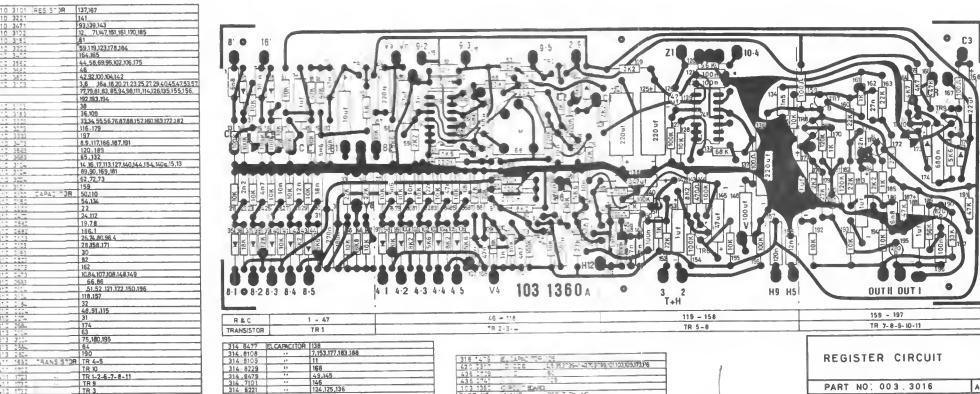
1211040B	
210 2618	DECOUPLER
210 3621	"
210 3702	"
210 3703	"
210 3192	"
210 3300	"
210 3301	"
210 2679	"
210 3195	"
210 3196	"
210 3197	"
210 2105	CAPACITOR
210 2106	"
210 2074	"
210 8158	DIACAPACITOR
210 0055	POT METER
411 1072	TRANSISTOR
411 1810	"
438 0140	"
438 0109	"
431 1049	CHASSIS GND
PART NO. 003 3016 A	

GATE CIRCUIT

GATE CIRCUIT	
PART NO. 003 3016	A
210 3171	DECOUPLER
210 3221	"
210 2071	"
210 3172	"
210 3173	"
210 3174	"
210 3175	"
210 3176	"
210 3177	"
210 3178	"
210 3179	"
210 3180	"
210 3181	"
210 3182	"
210 3183	"
210 3184	"
210 3185	"
210 3186	"
210 3187	"
210 3188	"
210 3189	"
210 3190	"
210 3191	"
210 3192	"
210 3193	"
210 3194	"
210 3195	"
210 3196	"
210 3197	"
210 2105	CAPACITOR
210 2106	"
210 2074	"
210 8158	DIACAPACITOR
210 0055	POT METER
411 1072	TRANSISTOR
411 1810	"
438 0140	"
438 0109	"
431 1049	CHASSIS GND
PART NO. 003 3016 A	



BASS CIRCUIT
PART NO. 003 3016 A



REGISTER CIRCUIT
PART NO. 003 3016 A